Small Business Innovation Research/Small Business Tech Transfer

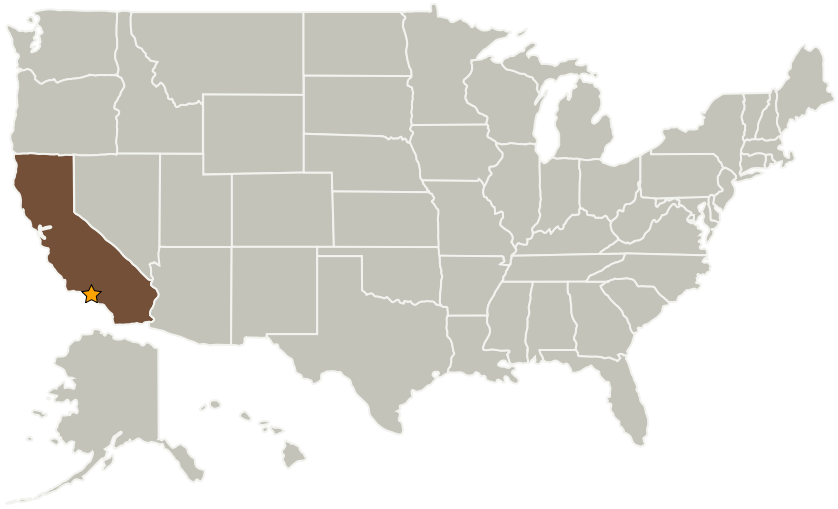
Expanded Operational Temperature Range for Space Rated Li-Ion Batteries, Phase II

Completed Technology Project (2009 - 2011)

Project Introduction

Quallion's Phase II proposal calls for expanding the nominal operation range of its space rated lithium ion cells, while maintaining their long life capabilities. To expand this temperature range, Quallion will conduct analysis on a variety of materials. Based upon our results from Phase I, Quallion will further optimize the formulations and fabricate our large format satellite cells for cell level testing. Quallion is also proposing a "right sizing" of this production facility to allow for cost effective, low volume production with enhanced reliability, long-term supply guarantee and design flexibility that allows for future production for NASA missions.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Jet Propulsion Laboratory(JPL)	Lead Organization	NASA Center	Pasadena, California
Quallion, LLC	Supporting Organization	Industry	Sylmar, California

Primary U.S. Work Locations
California

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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Jet Propulsion Laboratory (JPL)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Project Transitions

February 2009: Project Start

March 2011: Closed out

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX03 Aerospace Power and Energy Storage
  - TX03.2 Energy Storage
    - TX03.2.2 Electrochemical: Fuel Cells